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ABSTRACT

This is the 15th annual study of the 5-year (1997-2002) economic impact of Pellissippi State Technical Community College, Tennessee, on the Knox and Blount County area. The study measures the direct impact of the college on the community in terms of business volume, employment, and individual income. The study does not include data pertaining to the indirect economic impact of trained and educated workers available to local businesses. The report is based on the Caffrey model, a standard model of economic impact, and is modified for community colleges. It uses conservative income and employment multipliers to determine economic impact. The college, which has served the Knoxville metropolitan area since 1974, had a headcount of 7,795 students in 2002, up from 5,983 in 1989. Economic impact on the community is measured in relationship to total expenditures from all revenue sources, and in relationship to expenditures from only those external revenues that would likely not have occurred without the college's presence. For the 5-year period, $134.7 million in non-local revenues was brought into the service area, along with $65.9 million in local revenues. The 5-year average was 67.1% non-local and 32.9% local revenues. (NB)

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An Analysis Of the College's Economic Impact

1997-2002

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PELLISSIPPI STATE TECHNICAL COMMUNITY COLLEGE

A Major Partner in the Economic Vitality of the Knoxville Metropolitan Area

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A Major Partner in the Economic Vitality of the Knoxville Metropolitan Area

AN ANALYSIS OF THE COLLEGE'S

ECONOMIC IMPACT

1997 - 2002

March 2003

Dr. Fred H. Martin

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Note: This report is also available on the College's web site at www.pstcc.cc.tn.us/departments/institutional_research/strategic.htm

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EXECUTIVE SUMMARY

The fifteenth (15th) annual analysis of the direct economic impact of Pellissippi State Technical Community College (PSTCC) on Knox and Blount counties has recently been completed. It measures the College's five-year (1997-2002) economic impact on the community in terms of (1) business volume, (2) employment and (3) individual income. Not included in the study is the indirect economic impact that results from having a trained and educated work force available to local businesses.

The report is based on a standard model of economic impact modified for community colleges. The model uses conservative income and employment multipliers to determine economic impact.

The study reveals that over $134 million in "new", non-local, and state/federal revenues flowed into the area during 1997-2002 as a result of the College's presence. These external revenues represented 67.1 percent of the total college revenues for the period. The College also received a total of over $65 million in local revenues during this period, for a grand total of more than $200 million in revenues.

The following economic impact resulted from college expenditures of these revenues:

1. The local **business volume** generated by college expenditures during 1997-2002 was **$234.6 million**, with $178.5 million being due to non-local revenues. Annual business volume generated ranged from $40.3 million to $52.4 million.
2. Local **full-time jobs created** during 1997-2002 as a result of the College's presence totaled **17,211** (in addition to Pellissippi State's own 2,128 full-time jobs). Of this total, 12,905 jobs were the result of non-local revenues. Annual full-time jobs generated ranged from 2,994 to 3,804.

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3. **Individual income** generated by college expenditures during 1997-2002 totaled **$235.7 million** using the more conservative Type I indicator, with $182.9 million being due to non-local revenues. Annual individual income generated ranged from $40.4 million to $52.4 million.

In summary, the combined five-year direct economic impact on the community represents over **$470 million**, or an average of **$94 million** per year. Of this amount, $361 million, or over $72 million per year, is due to the infusion of "new" external/non-local revenues. This impact would likely not have occurred without the presence of Pellissippi State in the area.

It is significant that for every $1.00 of local revenues coming to Pellissippi State, there was $3.56 of local business volume and from $3.58 to $3.97 of individual income generated, for a total investment return of $7.14 to $7.53 on the local dollar!

The study continues to document the significant force Pellissippi State has become in the economic vitality of the Knoxville metropolitan area.

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INTRODUCTION

Pellissippi State Technical Community College has served the Knoxville metropolitan area since 1974, experiencing significant enrollment growth as indicated in Figure 1. This report is the fifteenth annual analysis of the five-year (1997-2002) economic impact of Pellissippi State on the Knoxville metropolitan area. The primary counties affected are Knox and Blount, with approximately 83 percent of the College's expenditures being made, on the average, in those two counties.

The analysis measures the direct, explicit economic impact of Pellissippi State on the community. It does not include the implicit, intangible economic impact that results from having a trained and educated work force available for local businesses or from expansion/recruitment of industry as a result of the presence of the College. The analysis is based on the Caffrey model of economic impact, originally developed in 1968 through the American Council of Education. The model has been adapted for application to community colleges.[1]

The model uses conservative income and employment multipliers to determine Pellissippi State's economic impact on the following:

1. Business volume--the total amount of local business volume generated as a result of the College's direct and indirect expenditures.
2. Local employment--the total number of full-time jobs generated by the College's direct and indirect expenditures.
3. Individual income--the total amount of personal income earned by local households as a result of the College's direct and indirect expenditures.

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[1]Norval L. Wellsfry, "The Los Rios Community College District: A Major Partner in the Sacramento Area's Economic Vitality," 1988 (unpublished paper).

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METHODOLOGY

The model is based on a circular cash flow model as illustrated in Figure 2. The community is treated as a semi-closed economic system, with money entering the system through Pellissippi State from both local and external or "new" sources.

The local sources of revenue include student fees, local grants/contracts, private scholarships, gifts and other miscellaneous local revenue. External or "new" revenues include state appropriations for both operating and capital purposes, federal/state student financial aid revenues, state/federal grants and contracts, etc.

Pellissippi State circulates its revenues through the local economy via expenditures for employee salaries, construction, and local purchases of equipment and supplies. These expenditures are then re-circulated through the economy, increasing in value and having a multiplier or secondary impact as local businesses and households make expenditures and generate jobs.

Economic impact on the community is measured on two levels: (1) in relationship to total expenditures from all revenue sources and (2) in relationship to expenditures from only those external or "new" revenues that would likely not have occurred without Pellissippi State's presence in the economy. The following college revenues and expenditures for the five-year period 1997-2002 were incorporated into a LOTUS 1-2-3 spreadsheet template containing the model.

REVENUE SOURCES

SOURCES	FISCAL YEAR 1997-98	1998-99	1999-00	2000-01	2001-02	TOTAL
GENERAL						
STATE APPROP.	15,363,800	16,548,800	17,062,100	17,514,300	18,078,100	84,567,100
LOCAL PROP. TAX						
ENROLL. FEES	8,900,535	10,012,230	10,222,611	11,209,835	12,613,205	52,958,416
TOTAL	24,264,335	26,561,030	27,284,711	28,724,135	30,691,305	137,525,516
FEDERAL	72,487	71,761	65,828	68,399	89,479	367,954
OTHER STATE		5,500	7,525	0	21,500	34,525
COUNTY						
LOCAL	798,174	966,165	1,133,371	1,414,553	1,130,082	5,442,345
OTHER LOCAL	0	0	0	0	0	0
SPECIAL REVENUE						
FEDERAL	1,089,304	1,087,330	943,197	1,213,311	1,854,836	6,187,978
STATE	172,039	209,100	418,835	356,928	985,098	2,142,000
LOCAL	875,319	720,967	583,995	675,890	353,928	3,210,099
OTHER	0	0	0	0	0	0
STUDENT FINANCIAL AID						
FEDERAL	6,803,033	7,012,031	6,714,649	7,669,138	8,996,398	37,195,249
STATE	497,095	684,317	739,589	1,117,731	1,150,623	4,189,355
LOCAL	811,759	1,270,276	741,882	669,490	780,517	4,273,924
OTHER						
TOTAL REVENUE	35,383,545	38,588,477	38,633,582	41,909,575	46,053,766	200,568,945
LOCAL	11,385,787	12,969,638	12,681,859	13,969,768	14,877,732	65,884,784
NON-LOCAL	23,997,758	25,618,839	25,951,723	27,939,807	31,176,034	134,684,161
LOCAL %	32.2%	33.6%	32.8%	33.3%	32.3%	32.9%
NON-LOCAL %	67.8%	66.4%	67.2%	66.7%	67.7%	67.1%

EXPENDITURES

DATA	FISCAL YEAR 1997-98	1998-99	1999-00	2000-01	2001-02	TOTAL
WAGES	15,779,822	16,724,534	16,951,133	19,830,290	20,667,336	89,953,115
NON-SAL. EXPEN.	8,695,772	9,977,358	12,118,469	12,830,076	11,656,266	55,277,941
CAPITAL EXPEN.	2,047,445	3,149,029	2,076,178	1,749,946	1,719,556	10,742,154
STU. FIN. AID	8,111,887	8,966,624	8,196,120	9,456,359	10,927,538	45,658,528
NET WAGES	11,834,867	12,543,401	12,713,350	14,872,718	15,500,502	67,464,836
NON-SALARY, LOCAL	7,174,012	8,231,320	9,997,737	10,584,813	9,616,419	45,604,301
CAPITAL, LOCAL	1,689,142	2,597,949	1,712,847	1,443,705	1,418,634	8,862,277
FT JOBS	401	406	434	455	432	2,128
NON-LOCAL REVENUE %	67.8%	66.4%	67.2%	66.7%	67.7%	67.1%
EXPENDITURES	28,809,908	32,339,294	32,620,054	36,357,595	37,463,093	167,589,943
EXPENDITURES (NEW)	22,149,658	24,483,709	24,602,654	27,390,574	28,890,746	127,517,340

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For the five-year period, $134.7 million in non-local revenues was brought into the service area, along with $65.9 million in local revenues. The five-year average was 67.1 percent non-local and 32.9 percent local revenues.

RESULTS

Business Volume Impact

The local business volume impact generated by Pellissippi State expenditures is shown below:

BUSINESS VOLUME

	1997-98	1998-99	1999-00	2000-01	2001-02	TOTAL
BUSINESS VOLUME	40,333,871	45,275,011	45,668,075	50,900,633	52,448,330	234,625,920
BUSINESS VOLUME (NEW)	31,009,521	34,277,192	34,443,715	38,346,804	40,447,044	178,524,276

The business volume impact of total college expenditures ranged from $40.3 million to 52.4 million, with a five-year total of $234.6 million. The impact of external or "new" college funds ranged from $31.0 million to $40.4 million, with a five-year total of $178.5 million. Figure 3 graphs the relationship between local revenues and total business volume.

Employment Impact

The local employment impact in terms of full-time jobs created by Pellissippi State expenditures is shown on the next page:

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EMPLOYMENT IMPACT

	1997-98	1998-99	1999-00	2000-01	2001-02	TOTAL
EMPLOYMENT	2,993.89	3,316.54	3,369.80	3,727.18	3,803.68	17,211
EMPLOYMENT (NEW)	2,265.43	2,473.08	2,505.77	2,768.49	2,892.61	12,905

Pellissippi State's own full-time (FT) jobs ranged from 401 to 455 during this period, yet the total annual employment created by college expenditures ranged from 2,994 to 3,804. The number of jobs created annually by external or "new" funds ranged from 2,265 to 2,893. Figure 4 graphs the relationship between the College's FT jobs and both total and "new" FT jobs generated by the College's presence.

Individual Income Impact

The local impact of Pellissippi State's expenditures on personal income is calculated using two different multipliers to produce a range of impact, shown below as Type I and Type II. The Type I multiplier is the more conservative measure.

INCOME IMPACT

	1997-98	1998-99	1999-00	2000-01	2001-02	TOTAL
TYPE I	40,373,931	45,767,551	46,128,030	50,989,028	52,433,417	235,691,958
TYPE II	44,876,861	50,540,064	50,965,206	56,647,800	58,331,048	261,360,979
TYPE I (NEW)	31,687,715	35,355,834	35,423,713	39,191,899	41,317,405	182,976,566
TYPE II (NEW)	34,741,683	38,524,299	38,673,037	42,964,426	45,309,798	200,213,243

The total impact of college expenditures on personal income, using the more conservative indicator, ranged from $40.4 million to $52.4 million, with a five-year total of $235.7 million. The

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impact of external or "new" funds ranged from $31.7 million to $41.3 million, with a five-year total of $182.9 million. Figure 3 also graphs the relationship between local revenues and total personal income.

In summary, the combined five-year direct economic impact on the community represents over $470 million, or an average of $94 million per year. Of this amount, $361 million, or over $72 million per year, was due to the infusion of "new", external/non-local revenues. This impact would likely not have occurred without the presence of Pellissippi State in the area.

It is significant that for every $1.00 of local revenues coming to Pellissippi State, there was $3.56 of local business volume and from $3.58 to $3.97 of individual income generated, for a total investment return of $7.14 to $7.53 on the local dollar!

CONCLUSIONS

The results of this economic impact study clearly demonstrate that Pellissippi State Technical Community College continues to be a major contributor to the economic base of Knox and Blount Counties. In addition to the more implicit impact of a community college on the improved productivity and quality of life achieved through increased education, the explicit economic impact is significant. This economic impact is expressed in terms of jobs created, business volume generated and personal income earned.

As Pellissippi State continues to grow in enrollment and/or budget, its economic impact on the Knoxville metropolitan area will increase similarly. The College has clearly become a major partner and force in the economic vitality of the Knoxville metropolitan area.

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Figure 1

PSTCC Historical Headcount Enrollment By Fall Terms

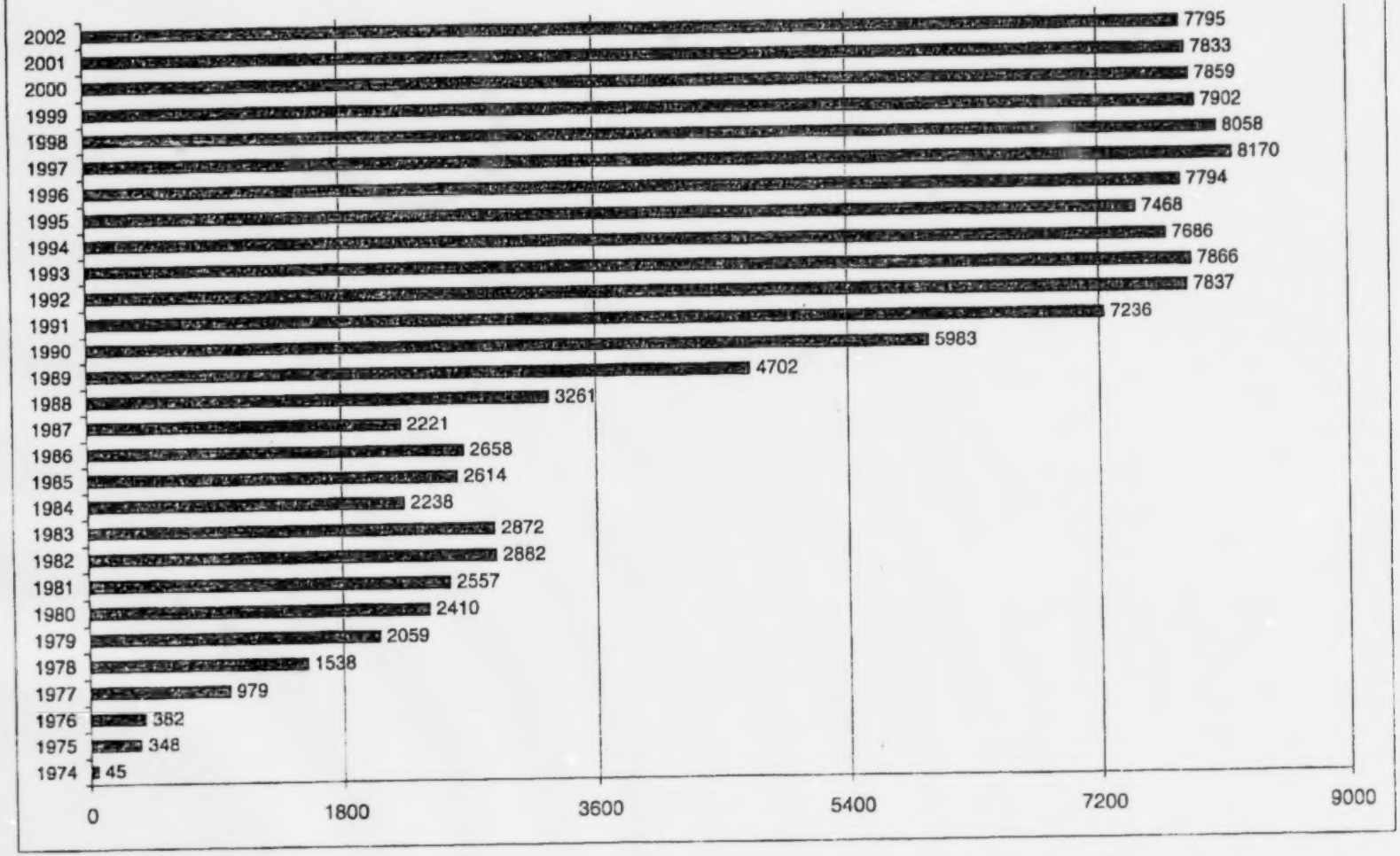

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Figure 2

Circular Cash Flow Model

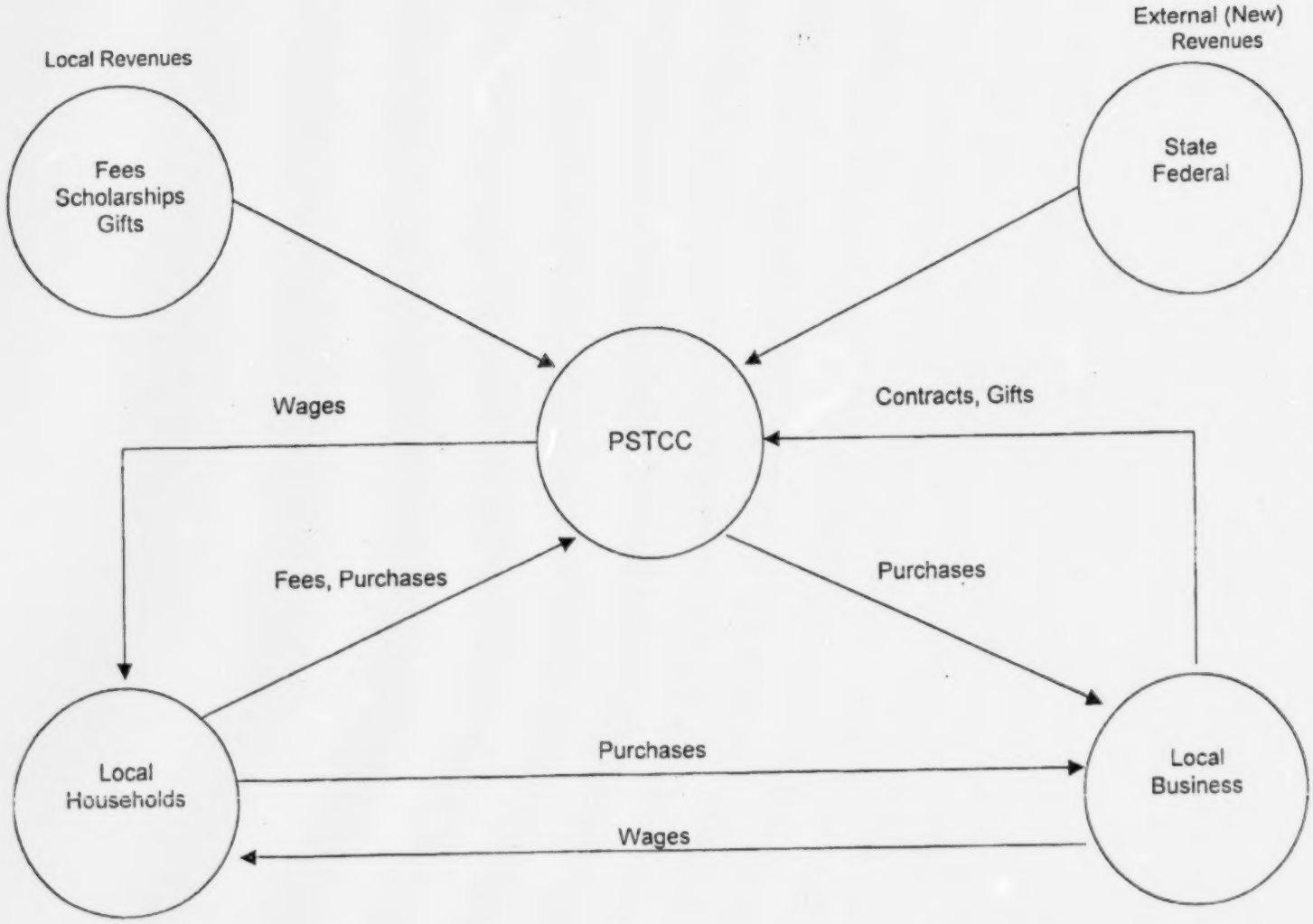

Figure 3
Economic Impact Analysis
Local Revenue/Impact on Business Volume and Income

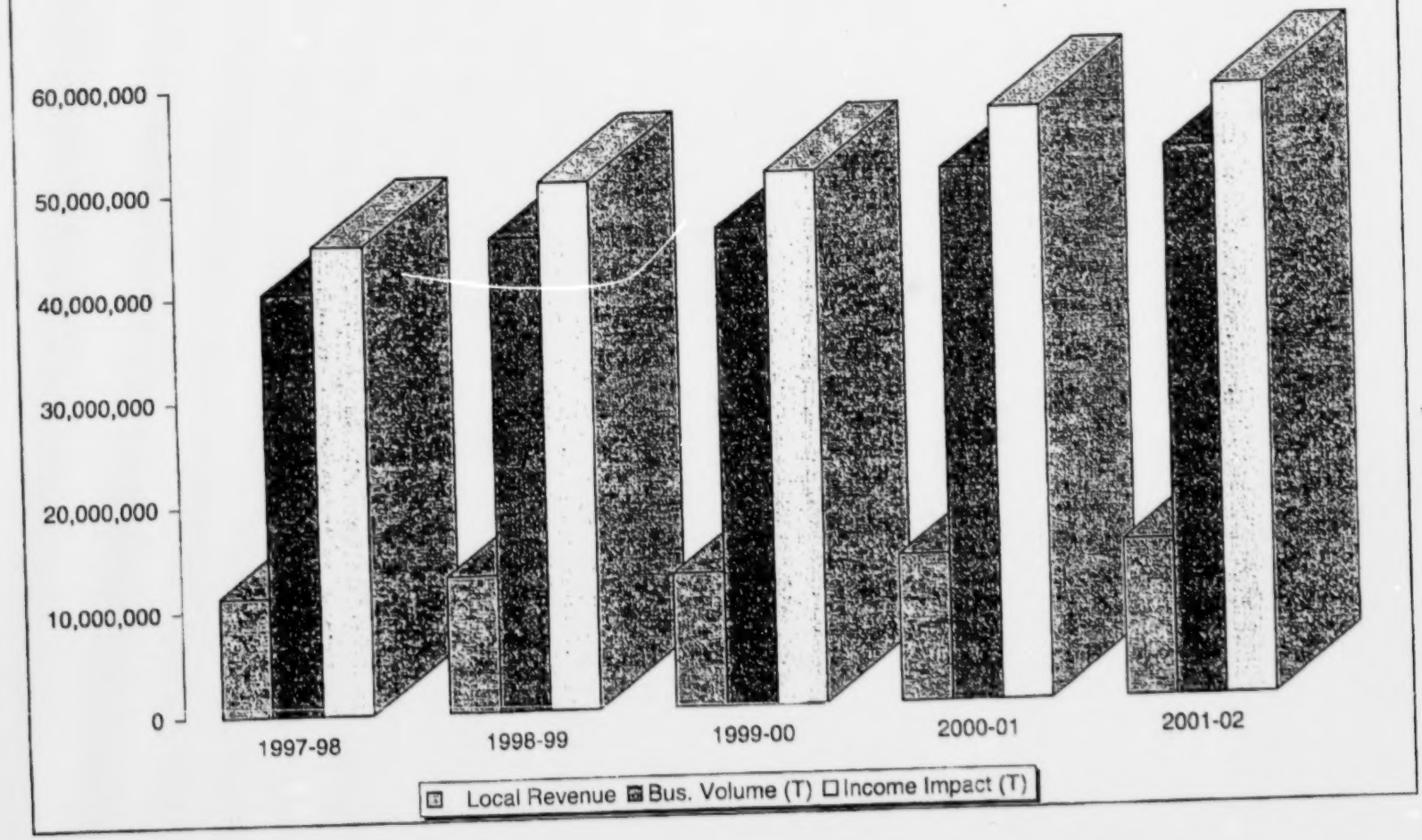

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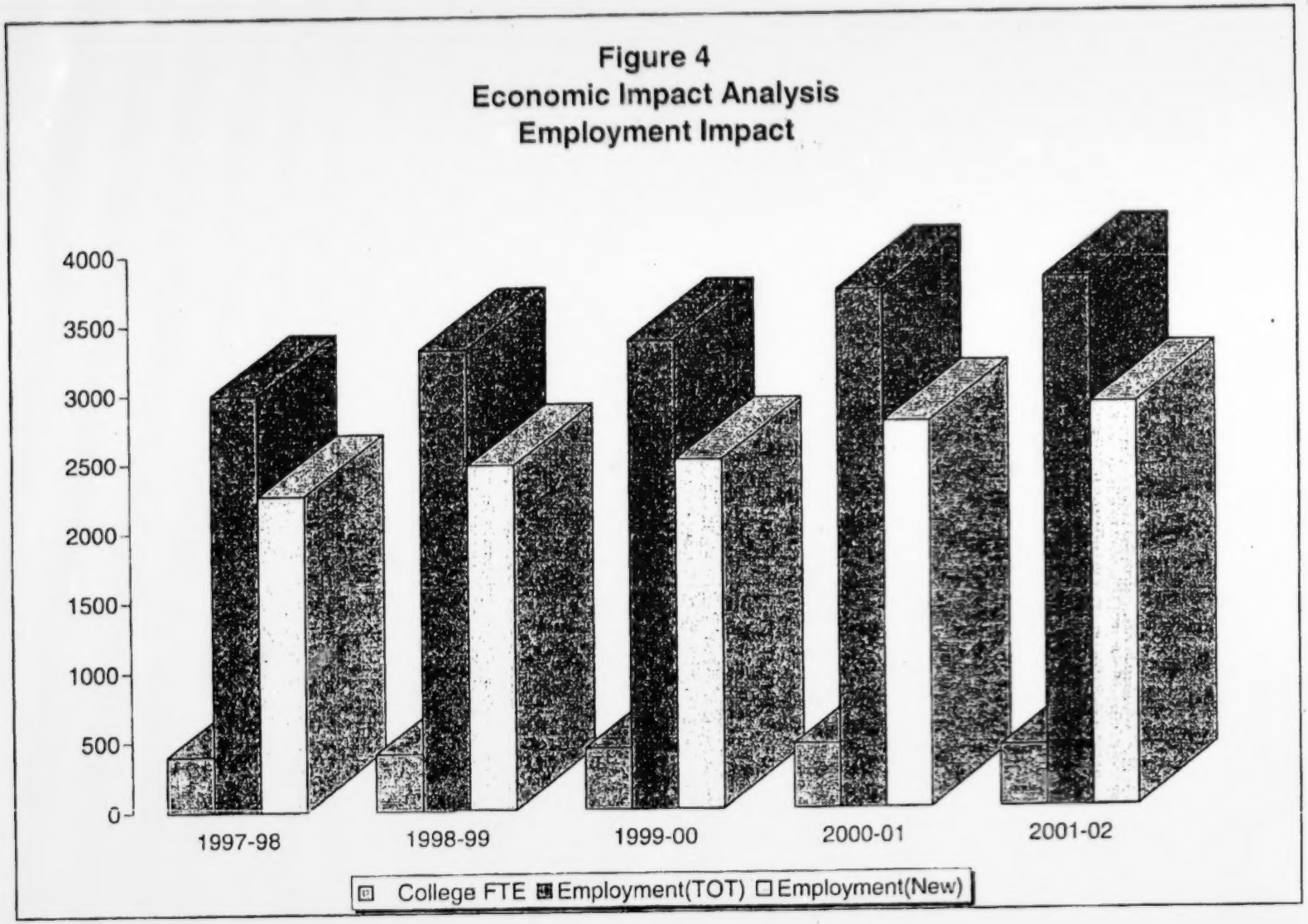
Figure 4
Economic Impact Analysis
Employment Impact



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